

REMARKS

Claims 1 – 11 and 16 are pending in this application. A Request For Continued Examination, a Three-Month Petition For Extension Of Time, and the required fees are enclosed.

A Supplemental Declaration of Ofer Sneh is also enclosed. The Examiner has stated that the phrase “for controlling the PCC pressure to never exceed the pressure in said process chamber during normal operation” and the terms “LPCVD”, “RIE”, and “PECVD” are considered intended use and, therefore, do not limit the scope of the claims. These terms have been replaced with language considered to be structural under the patent law. In addition, amendments have been made to put the claim elements in more logical order and to place elements in the preamble with corresponding structure in the body of the claim.

CLAIM REJECTIONS – 35 USC §103

In a Final Office Action mailed June 24, 2009 (hereinafter, “the Office Action”), claims 1, 3 – 5, 7 – 11, and 16 have been rejected under 35 USC 103(a) as being unpatentable over Bhatnagar et al. (US Patent No. 6,391,146, hereinafter “Bhatnagar”), in view of Halsey et al. (US Patent No. 6,663,025, hereinafter “Halsey”), Heinze (US Patent No. 2,028,603, hereinafter “Heinze”), and Volgyi (US Patent Application Publication No. 2004/0163706, hereinafter “Volgyi”). This rejection is respectfully traversed.

The Examiner provides a lengthy list of limitations which Bhatnagar does not contain. This list continues for five paragraphs, i.e., paragraphs 14 – 18 on pages 5 and 6 of the Office Action, and is followed by a statement that Halsey et al. teaches these limitations, citing an alleged diffuser/flow restrictor 200 in FIGS. 4A or 4B of Halsey.

This rejection ignores the patent law and the MPEP. The patent law requires that a rejection be explicit.

The key to supporting any rejection under 35 U.S.C. 103 is the clear articulation of the reason(s) why the claimed invention would have been obvious. The Supreme Court in *KSR International Co. v. Teleflex Inc.*, 550 U.S. ___, ___, 82

USPQ2d 1385, 1396 (2007) noted that the analysis supporting a rejection under 35 U.S.C. 103 should be made explicit. The Federal Circuit has stated that “rejections on obviousness cannot be sustained with mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” *In re Kahn*, 441 F.3d 977, 988, 78 USPQ2d 1329, 1336 (Fed. Cir. 2006). See also *KSR*, 550 U.S. at ___, 82 USPQ2d at 1396 (quoting Federal Circuit statement with approval).

MPEP 2142. The Examiner is purposely vague about whether the whole of diffuser 200 is supposed to be equivalent to the FRE of the claims, or only a part of it, and if only a part, which part. Further, the diffuser 200 can operate with flow in either direction; and the Examiner does not hint at which mode of operation is supposed to be equivalent to the FRE; nor does the Examiner hint at which end of the apparatus 200 is attached toward the process chamber 35 of Bhatnagar and which end is attached toward the pumps 125. We note that if apparatus 200 is attached as shown in FIG. 4A with the top end toward the process chamber, the flow must be downward; otherwise, the flow is contrary to the flow in Bhatnagar. However, when flow is in the downward direction in FIG. 4A, that is, when the apparatus 200 is used in pumping mode, the valve 414 is turned off. See column 6, lines 30 – 34. So in this case, the restrictor 416 in Halsey is not an operating part of the system. Moreover, this inserts a complex set of vanes and channels in Bhatnagar just before the abatement system 200. This makes no sense, as the small channels and vanes will collect deposits and will be difficult to clean. If the diffuser is turned the other way, with the top of the device in FIG. 4A toward the pump, this makes even less sense, since the shape of the diffuser slows the gas, which would cause any residue in the gas that is to be abated to settle out. See column 7, lines 5 – 15.

The fact is the Examiner does not even try to make any articulated reasoning as required by *KSR* as to why someone skilled in the art would put any part or all of the apparatus 200 of Halsey into Bhatnagar. Instead, he simply misinterprets and misquotes Halsey to try to find motivation to insert the diffuser system 200 of Halsey for the FREs in the present claims. The Examiner cites column 2, lines 39 – 41, of Halsey as saying that the diffuser 200 provides a rapid cycle in venting and pumping gas. Actually, this citation says that the invention of Halsey provides two things: a diffuser and a rapid cycle chamber. If one actually reads Halsey, one sees that the chamber is not the diffuser, but the processing chamber 300 (FIGS. 3a to 3C) and the rapid cycling is a result of the fact that the diffuser slows the gas so that the gas flow does not disturb particles in the chamber, which increases chamber throughput.

See column 7, lines 49 – 55. Further, a closer reading of Halsey sees that it teaches use of the apparatus 200 only in venting and pumping gas out of the chamber or flowing gas into the chamber. There is no suggestion in Halsey that the apparatus 200 would be useful in combination with an abatement system as in Bhatnagar, or in controlling the pressure in a process chamber as claimed. Further, as shown in the attached Supplemental Declaration, a diffuser operates contrary to a flow restriction element.

The patent law and the MPEP require that a 35 USC §103 rejection cite a combination of references that together teach the invention. There is nothing in the prior art that teaches using a flow restriction element (FRE) in combination with a pressure control chamber, a gas source, and a flow controlling device to control the pressure in a process chamber. Instead of citing the teachings of the prior art, the Examiner finds pieces of a reference he considers similar and adds them together using the claims as a guide. The Examiner cites an Exhaust tube 85 in Bhatnagar as a pressure control chamber. There is no suggestion in Bhatnagar that the exhaust tube in combination with a gas source and flow control device provides any pressure control. Bhatnagar states that the pressure of the gas in the processing chamber is controlled by a throttle valve 82. See column 4, lines 1 – 3. That is simply the conventional art which the invention improves upon. When he can't find an element in the prior art, such as the FRE, he alleges that an element that unrelated to an FRE, a diffuser, is a flow restriction device. There is nothing in the prior art that suggests that a diffuser is equivalent to an FRE or the use of a diffuser in the flow path between a process chamber and an abatement device.

The combination that the Examiner makes is not suggested in the references but rather by the instant application. It is basic patent law that the combination of the items found in the references must be suggested in the references themselves; otherwise, the analysis is using hindsight. MPEP 2145X.A. As stated by the Federal Circuit Court of Appeals:

In its consideration of the prior art, however, the district court erred in ... considering the claims in less than their entireties, i.e., in disregarding disclosures in the references that diverge from and teach away from the invention at hand. (citations omitted).

* * *

The result is that the claims were used as a frame, and individual naked parts of separate prior art references were employed as a mosaic to recreate a facsimile of

the claimed invention. At no point did the district court, nor does *Garlock*, explain why that mosaic would have been obvious to one skilled in the art in 1969, or what there was in the prior art that would have caused those skilled in the art to disregard the teachings that were found against making just such a mosaic.

* * *

To imbue one of ordinary skill in the art with knowledge of the invention in suit, when no prior art reference or references of record convey or suggest that knowledge, is to fall victim to the insidious effect of hindsight syndrome wherein that which only the inventor taught is used against its teacher.

W.L. Gore & Associates, Inc. v. Garlock, 220 U.S.P.Q. 303, 311-13 (Fed. Cir. 1983).

As another example of the Examiner using hindsight, the Examiner cites an air compressor, i.e., Heinze, as being an analogous art to a subatmospheric pressure control system and a screen designed to filter out particles, as an FRE. First, there is no evidence in the prior art that a screen is equivalent to an FRE. In addition, the Examiner pays no attention to why a screen is useful in Heinze and whether the reasoning for using a screen in Heinze is relevant to Bhatnagar. Heinze is an air compressor which is pulling in raw air from the environment and injecting it into a turbine engine. Anyone can see why a screen is useful in that situation. However, Bhatnagar has no relationship to such a situation. Bhatnagar is a subatmospheric deposition system. The gases that are flowed into such a system are purified. There is no suggestion in Bhatnagar that there are particles that need to be screened out. Further, the pump in Bhatnagar which the Examiner says needs a screen is exhausting the flow out of the system. There is no reasoning in the Office Action as to why particles need to be screened out just before the pump in Bhatnagar, why a screen is equivalent to an FRE, or how a screen is useful in controlling pressure in a process chamber. According to the Examiner's reasoning, a screen carries along with it an automatic reason why one would be motivated to use it, i.e., it screens out particles. Under the Examiner's reasoning, a screen, and consequently an FRE (since an FRE is equivalent to a screen), can be placed anywhere in a gas flow system. That is, the Examiner can place it anywhere the Examiner needs it to make a combination, and then has an automatic motivation for placing it, i.e., to screen particles, whether there are any particles present or not. It is abundantly clear that the Examiner chooses Heinze only because he is using the claims as a guide.

For the above reasons claims 1, 3 – 5, 7 – 11, and 16 are patentable over the cited references.

Claims 1, 2, 5, and 6 have been rejected under 35 USC 103(a) as being unpatentable over Bhatnagar, in view of Halsey and Heinze. This rejection is respectfully traversed. Again, the Examiner says that the diffuser 200 of Halsey is equivalent to an FRE, without any support or reasoning, and states that a screen of Heinze is equivalent to an FRE and provides no explanation of why a screen would be useful in Bhatnagar. Thus, the arguments above also apply to this rejection.

In view of the above amendments and remarks, Applicant believes the pending application is in condition for allowance. A Request For Continued Examination, A Three-Month Petition For Extension Of Time, and the required fees are attached. If any additional fee is due, please charge our Deposit Account No. 50-1848, under Order No. 020008.0112PTUS from which the undersigned is authorized to draw.

Respectfully submitted,
PATTON BOGGS LLP

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By: /Carl A. Forest/
Carl A. Forest
Registration No.: 28,494
(303) 894-6114
(303) 894-9239 (Fax)
Attorney for Applicant

Customer No. 24283